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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/592,967

09/14/2006

Shigeki Satou

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SEED INTELLECTUAL PROPERTY LAW GROUP PLLC

701 FIFTH AVE

SUITE 5400

SEATTLE, WA 98104

EXAMINER

PAK, HANNAH J

ART UNIT

PAPER NUMBER

1796

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/592,967	<b>Applicant(s)</b> SATOU ET AL.	
	<b>Examiner</b> Hannah Pak	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/05/2009 and 09/14/2006</u>                                  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION*****Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

*5 obviousness-type double patenting rejections are set forth below:*

*Double Patenting I*

1. Claims 1-4 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of copending Application No. 10/592,895, hereinafter referred to as “U.S. Appl. '895” (US 2007/0202256) in view of Watanabe et al. (Machine Translation of JP 2003-249121). Although the conflicting claims are not identical, they are not patentably distinct from each other.

Both the instant application and the U.S. Appl. '895 claim a dielectric paste containing ethyl cellulose having an apparent weight average molecular weight of 110,000-190,000 as a binder and at least one kind of solvent. They use the same

Art Unit: 1796

solvent, for example, dihydroterpinyl methyl ether. Both the instant application and the U.S. Appl. '895 further claim a method for fabricating a multi-layered unit for a multi-layered electronic component comprising a step of printing the dielectric paste on a ceramic green sheet containing a resin system as a binder in a predetermined pattern, thereby forming a spacer layer.

The U.S. Appl. '895 does not specifically mention employing a butyral system resin as required by the instant application.

However, Watanabe et al. teach employing a butyral resin as a binder resin for the purpose of fabricating a multi-layered electronic component with desired characteristics, such as good productive efficiency and yield and electrical properties (Paragraph 108).

Given the above teachings, it would have been obvious to one of ordinary skill in the art to employ a butyral system taught by Watanabe et al. with a reasonable expectation of successfully obtaining a multi-layered unit for a multi-layered ceramic electronic component with advantageous electrical properties.

This is a provisional obviousness-type double patenting rejection.

Double Patenting II

2. Claims 1-4 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, and 5-6 of copending Application No. 10/590,538, hereinafter referred to as "U.S. Appl. '538" (US 2007/0172581) in view of Watanabe et al. (Machine Translation of JP 2003-249121).

Art Unit: 1796

Although the conflicting claims are not identical, they are not patentably distinct from each other.

Both the instant application and the U.S. Appl. '538 claim a dielectric paste containing ethyl cellulose as a binder and at least one kind of solvent. They use the same solvent, for example, dihydroterpinyl methyl ether and terpinyl methyl ether. Both the instant application and the U.S. Appl. '538 further claim a method for fabricating a multi-layered unit for a multi-layered electronic component comprising a step of printing the dielectric paste on a ceramic green sheet containing a resin system as a binder in a predetermined pattern, thereby forming a spacer layer.

The U.S. Appl. '538 does not specifically mention employing a butyral system resin as required by the instant application.

However, Watanabe et al. teach employing a butyral resin as a binder resin for the purpose of fabricating a multi-layered electronic component with desired properties, such as good productive efficiency and yield (Paragraphs 53 and 108).

Given the above teachings, it would have been obvious to one of ordinary skill in the art to employ a butyral system taught by Watanabe et al. with a reasonable expectation of successfully obtaining a multi-layered unit for a multi-layered ceramic electronic component with advantageous electrical properties.

The U.S. Appl. '538 also does not mention the specific molecular weight average of the ethyl cellulose. However, the U.S. Appl. '538 claims a molecular weight range of 145,000-215,000, which overlaps with the range recited in claims 1-4 of the instant application (110,000-190,000 and 115,000-180,000). Therefore, the subject matter as a

Art Unit: 1796

whole would have been obvious to one having ordinary skill in the art at the invention was made, since it has been held that choosing the overlapping portion of the range claimed by U.S. Appl. '538 and the range instantly claimed by the applicant, has been held to be a *prima facie* case of obviousness, see s MPEP § 2144.05.

This is a provisional obviousness-type double patenting rejection.

3. Claims 1-4 directed to an invention not patentably distinct from claims 1, 3, and 5-6 of commonly assigned Application No. 10/590,538, hereinafter referred to as "U.S. Appl. '538" (US 2007/0172581). Specifically, please refer to the discussion in paragraph 2 above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned U.S. Appl. '538, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon

Art Unit: 1796

the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Double Patenting III

4. Claims 1-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 of copending Application No. 10/590,749, hereinafter referred to as "U.S. Appl. '749" (US 2007/0096061) in view of Watanabe et al. (Machine Translation of JP 2003-249121) and Scherer et al. ("Molecular weight of ethyl cellulose." Wiley InterScience: Journal of Polymer Science, 1960, Pages 531-535). Although the conflicting claims are not identical, they are not patentably distinct from each other.

Both the instant application and the U.S. Appl. '749 claim a dielectric (conductive) paste containing a butyral system resin as a binder and at least one kind of solvent. Both the instant application and the U.S. Appl. '749 further claim a method for fabricating a multi-layered unit for a multi-layered electronic component comprising a step of printing the dielectric paste on a ceramic green sheet containing a butyral resin system as a binder in a predetermined pattern, thereby forming a spacer layer. Both the instant application and U.S. Appl. '749 further claim the polymerization of 1000 or larger and butyralization of equal to or larger than 64 mol percent and equal to or smaller than 78 mol percent of the butyral system resin (Compare claims 5 and 6 of the instant application and claims 2-4 and 8-16 of the U.S. Appl. '749).

Art Unit: 1796

The U.S. Appl. '749 does not specifically mention employing an ethyl cellulose and its average molecular weight as required by the instant application. The U.S. Appl. '749 also does not mention using the solvents recited in the instant application.

However, Watanabe et al. teach employing ethyl cellulose and solvents, such as dihydroterpinyl methyl ether and l-menthone to form a dielectric paste suitable for a multi-layered electronic component with desired properties, such as excellent efficiency (Paragraphs 23, 51, 53 and 108).

In addition, Scherer et al. teach ethyl cellulose having a molecular weight of  $0.98 \times 10^5$  to  $4.10 \times 10^5$  (equivalent to 98,000 to 410,000), which overlaps with the ranges recited in the claims (see, for example, abstract). The ethyl cellulose is used in a dielectric dispersion with desired light-scattering and viscosity properties (Page 531).

Given the above teachings, it would have been obvious to one of ordinary skill in the art to employ the ethyl cellulose having the optimum or workable molecular weight taught by Scherer et al. and the solvents of Watanabe et al. to obtain a conductive paste suitable for a multi-layered laminated ceramic electronic component with desired dielectric properties, see *MPEP* § 2144.05, *IIB*.

This is a provisional obviousness-type double patenting rejection.

5. Claims 1-6 directed to an invention not patentably distinct from claims 1-14 of commonly assigned Application No. 10/590,749, hereinafter referred to as "U.S. Appl. '749" (US 2007/0096061). Specifically, please refer to the discussion in paragraph 4 above.



The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned U.S. Appl. '749, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Double Patenting IV

6. Claims 1-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 and 6 of copending Application No. 10/582,995, hereinafter referred to as "U.S. Appl. '995" (US 2007/0149668) in view of Watanabe et al. (Machine Translation of JP 2003-249121) and Scherer et al. ("Molecular weight of ethyl cellulose." Wiley InterScience: Journal of Polymer Science, 1960, Pages 531-535). Although the conflicting claims are not identical, they are not patentably distinct from each other.

Both the instant application and the U.S. Appl. '995 claim a dielectric paste containing a butyral system resin as a binder and at least one kind of solvent. Both the instant application and the U.S. Appl. '995 further claim a multi-layered unit for a multi-layered electronic component comprising a dielectric paste on a ceramic green sheet containing a butyral resin system as a binder in a predetermined pattern, thereby forming a spacer layer. Both the instant application and U.S. Appl. '995 further claim the polymerization of 1000 or larger and butyralization of equal to or larger than 64 mol percent and equal to or smaller than 78 mol percent of the butyral system resin (Compare claims 5 and 6 of the instant application and claims 2-4 of the U.S. Appl. '995).

The U.S. Appl. '995 does not specifically mention employing ethyl cellulose and its average molecular weight as required by the instant application. The U.S. Appl. '995 also does not mention using the solvents recited in the instant application.

However, Watanabe et al. teach employing ethyl cellulose and solvents, such as dihydroterpinyl methyl ether and l-menthone to form a dielectric paste suitable for a multi-layered electronic component with desired properties, such as excellent efficiency (Paragraphs 23, 51, 53 and 108).

In addition, Scherer et al. teach ethyl cellulose having a molecular weight of  $0.98 \times 10^5$  to  $4.10 \times 10^5$  (equivalent to 98,000 to 410,000), which overlaps with the ranges recited in the claims (see, for example, abstract). The ethyl cellulose is used in a dielectric dispersion with desired light-scattering and viscosity properties (Page 531).

Given the above teachings, it would have been obvious to one of ordinary skill in the art to employ the ethyl cellulose having the optimum or workable molecular weight taught by Scherer et al. and the solvents of Watanabe et al. to obtain a conductive paste suitable for a multi-layered laminated ceramic electronic component with desired dielectric properties, see *MPEP* § 2144.05, *IIB*.

This is a provisional obviousness-type double patenting rejection.

7. Claims 1-6 directed to an invention not patentably distinct from claims 1-4 and 6 of commonly assigned Application No. 10/582,995, hereinafter referred to as "U.S. Appl. '995" (US 2007/0149668). Specifically, please refer to the discussion in paragraph 6 above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see *MPEP* Chapter 2300). Commonly assigned U.S. Appl. '995, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon

Art Unit: 1796

the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Double Patenting V

8. Claims 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/582,994, hereinafter referred to as "U.S. Appl. '994" (US 2007/0149666) in view of Watanabe et al. (Machine Translation of JP 2003-249121) and Scherer et al. ("Molecular weight of ethyl cellulose." Wiley InterScience: Journal of Polymer Science, 1960, Pages 531-535). Although the conflicting claims are not identical, they are not patentably distinct from each other.

Both the instant application and the U.S. Appl. '995 claim a dielectric paste containing a butyral system resin as a binder and at least one kind of solvent. The instant application and the U.S. Appl. '995 both claim the same solvents, including I-dihydrocarvyl acetate, I-menthone, and I-perillyl acetate.

The U.S. App. '995 does not specifically mention employing ethyl cellulose as a binder and its appropriate molecular weight average as required by the instant application.

However, Scherer et al. teach ethyl cellulose having a molecular weight of  $0.98 \times 10^5$  to  $4.10 \times 10^5$  (equivalent to 98,000 to 410,000), which overlaps with the ranges recited in the claims (see, for example, abstract). The ethyl cellulose is used in a dielectric dispersion with desired light-scattering and viscosity properties (Page 531).

Art Unit: 1796

Given the above teachings, it would have been obvious to one of ordinary skill in the art to employ the ethyl cellulose having the optimum or workable molecular weight taught by Scherer et al. to obtain a conductive paste suitable for a multi-layered laminated ceramic electronic component with desired dielectric properties, *see MPEP § 2144.05, IIB*.

This is a provisional obviousness-type double patenting rejection.

9. Claim 1 directed to an invention not patentably distinct from claims 1 of commonly assigned Application No. 10/582,994, hereinafter referred to as "U.S. Appl. '994" (US 2007/0149666). Specifically, please refer to the discussion in paragraph 8 above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned U.S. Appl. '994, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

Art Unit: 1796

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (Machine Translation of JP 2003-249121) in view of Scherer et al. ("Molecular weight of ethyl cellulose." Wiley InterScience: Journal of Polymer Science, 1960, Pages 531-535).

Watanabe et al. disclose a conductive paste suitable for a multi-layered laminated ceramic electronic component (Paragraphs 1-2, 22 and 28-30). The conductive paste contains a resinous principle, such as ethyl cellulose or an alkyd resin, and a solvent component, including 1-menthone, dihydroterpinyl methyl ether, and terpinyl methyl ether (Paragraphs 35, 51, and 62). Watanabe et al. disclose printing the dielectric paste on a ceramic green sheet containing a butyral resin as a binder in a predetermined pattern (screen printing), thereby forming a spacer layer (Paragraphs 59, 64, 102, and 106-109).

Art Unit: 1796

Watanabe et al. do not mention the specific average molecular weight of their ethyl cellulose.

Scherer et al. teach ethyl cellulose having a molecular weight of  $0.98 \times 10^5$  to  $4.10 \times 10^5$  (equivalent to 98,000 to 410,000), which overlaps with the ranges recited in the claims (see, for example, abstract). The ethyl cellulose is used in a dielectric dispersion with desired light-scattering and viscosity properties (Page 531).

Given the above teachings, it would have been obvious to one of ordinary skill in the art to employ the ethyl cellulose having the optimum or workable molecular weight taught by Scherer et al. to obtain a conductive paste of Watanabe et al. suitable for a multi-layered laminated ceramic electronic component with desired dielectric properties, *see MPEP § 2144.05, IIB*.

11. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (Machine Translation of JP 2003-249121) in view of Scherer et al. ("Molecular weight of ethyl cellulose." Wiley InterScience: Journal of Polymer Science, 1960, Pages 531-535), **and** further in view of Kobayashi (Machine Translation of JP 09-124771).

The disclosures with respect to Watanabe et al. and Scherer et al. in paragraph 10 are incorporated here by reference. They do not mention the degree of polymerization and butyralization of their butyral system resin.

However, Kobayashi teaches a butyral resin having a degree of polymerization of 1,500-2,500 and a degree of butyralization of at least 65 mol percent (see, for example,

Art Unit: 1796

abstract). The butyral resin is used in conductive films suitable for electronic components, such as semiconductors and circuit boards (Paragraphs 1-2). The advantages involved include excellent storage stability and adhesive strength (Paragraphs 3 and 23).

Given the above teaching, it would have been obvious to one of ordinary skill in the art to employ the butyral resin having the appropriate degree of polymerization and butyralization taught by Kobayashi as the butyral resin of Watanabe et al. with a reasonable expectation of successfully obtaining a dielectric paste for electronic components with desired properties.

### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hannah Pak whose telephone number is (571) 270-5456. The examiner can normally be reached on Monday - alternating Fridays (7:30 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hannah Pak  
Examiner  
Art Unit 1796

/HP/

/Vasu Jagannathan/  
Supervisory Patent Examiner, Art Unit 1796